Upon receipt of the product and prior to initial operation, read these instructions thoroughly, and retain for future reference.

The DX100 Operator’s Manual above corresponds to specific usage. Be sure to use the appropriate manual.

Part Number: 163490-1CD
Revision: 0
**Introduction**

This supplementary instruction manual describes differences between YR-SDA010D-E00 with built-in crystal sensor specification (here in after referred to as SDA10D-E00) and YR-SDA010D-A00, standard specification (here in after referred to as SIA10D-A00).

In order to operate SDA10D-E00, read this supplementary instruction manual thoroughly together with the following instruction manual:

- "MOTOMAN-SDA10D INSTRUCTIONS" (Manual No. 156402-1CD)

**Point of Difference**

SDA10D-E00 differs from SDA10D-A00 in the following points:

- Built-in crystal censor
- Controller specification

Thus, following items are changed in this instruction.

1. Order Number Confirmation (Chapter1)
2. Manipulator Cable Connection (Chapter4)
3. Dimensions and P-Point Maximum Envelope (Chapter5)
4. Internal Connection (Chapter8)
5. Maintenance and Inspection (Chapter9)
6. Recommended Spare Parts (Chapter10)

The differences are described based on “MOTOMAN-SDA10D INSTRUCTIONS” (Manual No. 156402-1CD). Read this manual thoroughly replacing the subject matters for changes with this supplementary instruction manual.
1 Product Confirmation

1.2 Order Number Confirmation

The controller of SDA10D-E00 is different from SDA10D-A00. Check the order number of the manipulator. The order number is located on a label as shown below.

Fig. 1-1: Location of Order Number Labels
Label (Enlarged View)

THE MANIPULATOR AND THE CONTROLLER SHOULD HAVE SAME ORDER NUMBER.

ORDER NO. ☐☐☐☐☐☐ ☐☐☐☐☐☐

Order No. Label
Manipulator Top View

DX100 Front View

THE MANIPULATOR AND THE CONTROLLER SHOULD HAVE SAME ORDER NUMBER.
4 Wiring

4.2 Manipulator Cable Connection

AS for SDA10D-E00, AMP connection cable for the built-in crystal sensor is added to the cable connection of SDA10D-A00. Thus, Chapter 4.2.1 “Connection to Manipulator” and Chapter 4.2.2 “Connection to DX100” has changed.

4.2.1 Connection to Manipulator

Before connecting the manipulator cables to the manipulator, verify the numbers on both manipulator cables and the connectors on the connector base of the manipulator. When connecting, adjust the cable connector positions to the main key positions of the manipulator, and insert the cable in the order of 2BC, 4BC, IBC, 3BC and AMP until it clicks.

4.2.2 Connection to DX100

Before connecting cables to the DX100, verify the numbers on both manipulator cables and the connectors on the DX100. When connecting, insert the cables in the order of X21, X22, X11, X12, and CN1. After inserting the cable, depress the lever until it clicks.

Fig. 4-1: Manipulator Cables

<table>
<thead>
<tr>
<th>DX100 Connector No.</th>
<th>Manipulator Connector No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X11</td>
<td>1BC Signal Cable</td>
</tr>
<tr>
<td>X21</td>
<td>2BC Power Cable</td>
</tr>
<tr>
<td>X12</td>
<td>3BC Signal Cable</td>
</tr>
<tr>
<td>X22</td>
<td>4BC Power Cable</td>
</tr>
<tr>
<td>CN1</td>
<td>AMP</td>
</tr>
</tbody>
</table>

Sensor Cable
4. Wiring
4.2 Manipulator Cable Connection

Fig. 4-2(a): Manipulator Cable Connection (Manipulator Side)

Fig. 4-2(b): Manipulator Cable Connection (DX100 Side)
5 Basic Specifications

5.4 Dimensions and P-Point Maximum Envelope

SDA10D-E00 has a part box for the sensor, and some dimensions have changed. (changed dimension indicates as *)

*Fig. 5-1: Dimensions and P-Point Maximum Envelope*
5.7 Protection Level

SDA10D-E00 is neither dustproof nor waterproof. Please pay attention to operating environment.
8 Electrical Equipment Specification

8.1 Internal Connections

SDA10D-E00 is added AMP cable for the crystal sensor.

Internal Connection Diagram (Figure 8-1(a) “Internal Connection Diagram” on page 8-9, Figure 8-1(b) “Internal Connection Diagram” on page 8-10, Figure 8-1(c) “Internal Connection Diagram” on page 8-11, Figure 8-1(d) “Internal Connection Diagram” on page 8-12 and Figure 8-1(e) “Internal Connection Diagram” on page 8-13) also have changed.
8 Electrical Equipment Specification
8.1 Internal Connections

Fig. 8-1(a): Internal Connection Diagram

Inside of manipulator

Wiring harness in rotation axis

To Fig. 8-1(b)
8 Electrical Equipment Specification
8.1 Internal Connections

Fig. 8-1(b): Internal Connection Diagram
Fig. 8-1(d): Internal Connection Diagram
Fig. 8-1(e): Internal Connection Diagram

Inside of manipulator

Base
Wiring harness in rotation axis
S-Base
Wiring harness in arm

Manipulator cable

DX103

S1 harness

S2 harness

S3 harness

Intermediate C base

To Fig. 8-1(b)

To Fig. 8-1(d)

To Fig. 8-1(d)
9 Maintenance and Inspection

9.1 Inspection Schedule

The components of SDA10D-E00 have changed from SDA10D-A00. Thus, following items are added.

Table 9-1: Inspection Items

<table>
<thead>
<tr>
<th>Items</th>
<th>Schedule</th>
<th>Method</th>
<th>Operation</th>
<th>Inspection Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Daily</td>
<td></td>
<td></td>
<td>Specified</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Personnel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Licensee</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Service Company</td>
</tr>
<tr>
<td>11 Filter</td>
<td>•</td>
<td>Visual</td>
<td>Replace the filter when it has dirt and a dust clogging.</td>
<td>•</td>
</tr>
<tr>
<td></td>
<td>•</td>
<td></td>
<td>Replacement cycle: One year or 4000H cycle</td>
<td>•</td>
</tr>
</tbody>
</table>
When the filter has dirt and the dust clogging, replace the filter. If leave dirt and the dust clogging in the filter, the temperature around the sensor will increase, and it may cause the problem.

**9.2.5 Filter Replacement**

There are louvered covers and dust-proof filters on the AMP BOX and rotation axis. As described at Section 9.1 "Inspection Schedule" on page 9-14, when the filter has dirt and the dust clogging, replace the filter or replace the filter either every year or 4000H cycle.

**Fig. 9-2: Filter Positions**

1. Remove the cross recessed hexagon upset head bolts (as see above the View A, B and C), and then remove the cover and the filter.

2. Install the cover and new filter.
10 Recommended Spare Parts

The components of SDA10D-E00 have changed from SDA10D-A00. Thus, following some spare parts have changed.

Table 10-1: Spare Parts for YR-SIA204D-A10

<table>
<thead>
<tr>
<th>Rank</th>
<th>Parts No.</th>
<th>Name</th>
<th>Type</th>
<th>Manufacturer</th>
<th>Qty.</th>
<th>Qty. per Unit</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>B 5 Arm unit</td>
<td>HW1381223-A</td>
<td>Yaskawa</td>
<td>1</td>
<td>2</td>
<td>for R1 and R2-axes Changed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>B 8 Wire harness in rotation axis</td>
<td>HW1170541-A</td>
<td>Yaskawa</td>
<td>1</td>
<td>1</td>
<td>Changed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A 15 Filter</td>
<td>HW1403117-1</td>
<td>Yaskawa</td>
<td>1</td>
<td>1</td>
<td>Added for a cover on the rotation axis</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A 16 Filter</td>
<td>HW1403118-1</td>
<td>Yaskawa</td>
<td>1</td>
<td>1</td>
<td>Added for a cover on the AMP BOX</td>
</tr>
<tr>
<td></td>
<td></td>
<td>A 17 Filter</td>
<td>HW1403119-1</td>
<td>Yaskawa</td>
<td>1</td>
<td>1</td>
<td>Added for a back cover for the AMP BOX</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C 18 Crystal sensor</td>
<td>9232A</td>
<td>Kistler Japan Corporation</td>
<td>3</td>
<td>6</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C 19 Charge amplifier</td>
<td>5073A311</td>
<td>Kistler Japan Corporation</td>
<td>1</td>
<td>2</td>
<td>Added</td>
</tr>
<tr>
<td></td>
<td></td>
<td>C 20 Cable between Sensor and amplifier</td>
<td>1631C0.5J</td>
<td>Kistler Japan Corporation</td>
<td>3</td>
<td>6</td>
<td>Added</td>
</tr>
</tbody>
</table>
MOTOMAN-SDA10D
INSTRUCTIONS

Specifications are subject to change without notice
for ongoing product modifications and improvements.